

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A Rake receiver for performing a symbol combining function with respect to demodulated multi-path signals in a demodulation step of a code division multiple access(CDMA) communication system, ~~being characterized in that the Rake receiver includes comprising only one FIFO(First-In First Out) register, that accumulates a plurality of previously-stored FIFO register values by using an adding part; and then stores the accumulated value in the FIFO register when storing a finger-demodulated symbol in the FIFO register, and further including a control logic part that determines a block position of the FIFO register where a transmitted symbol demodulated in each finger is to be stored and outputs a combined symbol data after receiving an output signal, and wherein the control logic part includes a circuit for calculating a writing position of the FIFO register by using a phase of a PN code, a symbol duration, and a depth of the FIFO register.~~

2. (Canceled)

3. (Currently Amended) The Rake receiver according to Claim-2 1, wherein the control logic part includes a part ~~which~~that sequentially selects a symbol data of each finger to be combined; by using a writing signal and a symbol duration that are received from each finger.

4. (Canceled)

5. (Currently Amended) The Rake receiver according to Claim-4 1, wherein the circuit determines a writing position of the FIFO register by using the following equation:

$$W = \left(\left\lfloor \frac{P}{S} \right\rfloor - 1 \right) \bmod N$$

where, $[x]$ is a maximum integer below 'x', $x \bmod y$ (modulo-operation) is a remainder when 'x' is divided by 'y', W is a variable indicating a storage position of a selected symbol data, P is a variable indicating a timing reference of each symbol by using a phase of PN code, S is a variable indicating a symbol duration, and N is a depth of the FIFO register.

6. (Currently Amended) The Rake receiver according to Claim 1, further comprising:

a combiner for combining a symbol data demodulated in each finger with an output value of the FIFO register.

7. (Currently Amended) A method of combining a symbol of demodulated multi-path signals in a demodulation step of a CDMA communication system, comprising the steps of:

accumulating a plurality of previously-stored FIFO register values by using an adding part and then ~~stores~~ storing the accumulated ~~value~~ values in the FIFO register; when storing a finger-demodulated symbol in the FIFO register; and

calculating a writing position of the FIFO register by using a phase of a PN code, a symbol duration, and a depth of the FIFO register.

8. (Currently Amended) The symbol combining method according to Claim 7, further comprising the step of:

sequentially selecting a symbol data of each finger to be combined; by using a writing signal and ~~a~~ the symbol duration that are received from each finger.

9. (Canceled)

10. (Currently Amended) The symbol combining method according to Claim 9 7, further comprising the step of:

determining a writing position of the FIFO register by using following equation:

$$W = \left(\left\lfloor \frac{P}{S} \right\rfloor - 1 \right) \bmod N$$

where, $[x]$ is a maximum integer below 'x', $x \bmod y$ (modulo-operation) is a remainder when 'x' is divided by 'y', W is a variable indicating a storage position of a selected symbol data, P is a variable indicating a timing reference of each symbol by using a phase of PN code, S is a variable indicating ~~a~~the symbol duration, and N is a depth of the FIFO register.

11. (Original) The symbol combining method according to Claim 7, further comprising the step of:

combining a symbol data demodulated in each finger with an output value of the FIFO register.

12. (Currently Amended) A symbol combining method for driving a Rake receiver ~~including that includes~~ only one FIFO register, comprising:

accumulating a plurality of previously-stored FIFO register values by using an adding part and then storing the accumulated value in the FIFO register when storing a finger-demodulated symbol in the FIFO register; ~~the method further comprising the steps of:~~

when storing data in the FIFO register after finishing a processing of the symbol data in an i-th finger, selecting a symbol data and a pseudo noise(PN) phase of the i-th finger;

calculating a writing position of indicating a block of the register where the symbol data is stored; by using ~~the~~a selected PN code phase; and

reading the data of the block located at the calculated writing position, combining the read block data with the symbol data to be stored, and storing a resultant value into the block located at the calculated writing position,

wherein the step of calculating a writing position by using a selected PN code phase comprises determining the writing position of the FIFO register by using the following equation:

$$W = \left(\left\lfloor \frac{P}{S} \right\rfloor - 1 \right) \bmod N$$

where, [x] is a maximum integer below 'x', x mod y (modulo-operation) is a remainder when 'x' is divided by 'y', W is a variable indicating a storage position of a selected symbol data, P is a variable indicating a timing reference of each symbol by using a phase of the PN code, S is a variable indicating the symbol duration, and N is a depth of the FIFO register.

13. (Original) The symbol combining method for driving Rake receiver according to Claim 12, further comprising the step of:

if at least two fingers ask a storage action at the same time, firstly processing a finger of a low number prior to a finger of a high number, and then processing the finger of a high number.

14. (Canceled)

15. (Currently Amended) A symbol combining method for driving a Rake receiver including having only one FIFO register, comprising:

accumulating a plurality of previously-stored FIFO register values by using an adding part and then storing the accumulated value in the FIFO register when storing a finger-demodulated symbol in the FIFO register; ~~the method further comprising the steps of:~~

a) when storing data in the FIFO register after finishing a processing of the symbol data in an i-th finger, selecting a symbol data and a pseudo noise(PN) phase of the i-th finger;

b) calculating a writing position ~~of~~ indicating a block of the register where the symbol data is stored; by using the selected PN code phase;

c) reading the data of the block located at the calculated writing position, combining the read block data with the symbol data to be stored, and storing a resultant value into the block positioned at the calculated writing position;

d) repeating ~~the steps~~ (a), (b) and (c);

e) upon generation of a reading signal, calculating a block position of the FIFO register to be read; and

f) selecting ~~a~~-data located at the calculated block position of the FIFO register in ~~the step(e)~~, transmitting the selected data to a combiner, and then initializing the register.

16. (Original) The symbol combining method for driving Rake receiver according to Claim 15, further comprising the step of:

if at least two fingers ask a storage action at the same time, firstly processing a finger of a low number prior to a finger of a high number, and then processing the finger of a high number.

17. (Currently Amended) The symbol combining method for a driving Rake receiver according to Claim 15, wherein the step for calculating a writing position by using a selected PN code phase determines a writing position of the FIFO register by using the following equation:

$$W = \left(\left\lfloor \frac{P}{S} \right\rfloor - 1 \right) \bmod N$$

where, $[x]$ is a maximum integer below 'x', $x \bmod y$ (modulo-operation) is a remainder when 'x' is divided by 'y', W is a variable indicating a storage position of a selected symbol data, P is a variable indicating a timing reference of each symbol by using a phase of the PN code, S is a variable indicating a symbol duration, and N is a depth of the FIFO register.

18. (Currently Amended) A computer-readable storage medium, comprising the storage of ~~recording~~-a program for executing a symbol combining ~~of~~ demodulated multi-path signals in a demodulation step of a CDMA communication system, wherein the program executes the steps of:

accumulating a plurality of previously-stored FIFO register values by using an adding part; ~~and~~

storing the accumulated value in the FIFO register; when storing a finger-demodulated symbol in the FIFO register; and

determining a block position of the FIFO register where the transmitted symbol demodulated in each finger is to be stored, and outputs a combined symbol data after receiving an output signal;

wherein the determining step includes a sub-step for calculating a writing position of the FIFO register by using a phase of a PN code, a symbol duration, and a depth of FIFO register.

19. (Currently Amended) A computer-readable storage medium recording a program for executing a symbol combining method for driving a Rake receiver that includes only one FIFO register, and accumulates a plurality of previously-stored FIFO register values by using an adding part, and then stores the accumulated value in the FIFO register when storing a finger-demodulated symbol in the FIFO register, ~~being characterized in that the program executes comprising~~ the steps of:

when storing data in the FIFO register after finishing a processing of the symbol data in an i-th finger, selecting a symbol data and a pseudo noise(PN) phase of the i-th finger;

calculating a writing position of indicating a block of the register where the symbol data is stored; by using the selected PN code phase; and

reading the data of the block located at the calculated writing position, combining the read block data with the symbol data to be stored, and storing a resultant value into the block located at the calculated writing position,

wherein the step for calculating a writing position by using a selected PN code phase determines a writing position of the FIFO register by using the following equation:

$$W = \left(\left\lfloor \frac{P}{S} \right\rfloor - 1 \right) \bmod N$$

where, [x] is a maximum integer below 'x', x mod y (modulo-operation) is a remainder when 'x' is divided by 'y', W is a variable indicating a storage position of a selected symbol data, P is a variable indicating a timing reference of each symbol by using a phase of the PN code, S is a variable indicating a symbol duration, and N is a depth of the FIFO register.

20. (Currently Amended) A computer-readable storage medium, comprising:
containing

a program stored in the medium for executing a symbol combining method for driving a Rake receiver that includes only one FIFO register, accumulates a plurality of previously-stored FIFO register values by using an adding part, and then stores the accumulated value in the FIFO register when storing a finger-demodulated symbol in the FIFO register, ~~being characterized in that the program exeeutes~~ executing the steps of: a1) when storing data in the FIFO register after finishing a processing of the symbol data in an i-th finger, selecting a symbol data and a pseudo noise(PN) phase of the i-th finger;

b1) calculating a writing position ~~of~~ indicating a block of the register where the symbol data is stored; by using the selected PN code phase;

c1) reading the data of the block located at the calculated writing position, combining the read block data with the symbol data to be stored, and storing a resultant value into the block located at the calculated writing position.

d1) ~~repeating the steps~~ (a1), (b1) and (c1);

e1) upon generation of a reading signal, calculating a block position of the FIFO register to be read; and

f1) selecting ~~a~~-data located at the calculated block position of the FIFO register in ~~the step(e1)~~, transmitting the selected data to a combiner, and then initializing the block.